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Temperament, Parenting, and Moral Development: Specificity of Behavior and Context

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Abstract

This longitudinal study highlights the role of specific parenting behaviors in specific contexts when predicting moral development in children of varying temperament types. A sample of mother-child dyads took part in a competing demands task involving differing “do” and “don’t” contextual demands when the child was 2 years of age. Child temperament was also assessed at this time, yielding inhibited, exuberant, and low-reactive temperament groups. Children’s moral behavior was assessed at 5.5 years of age. Models examining the interaction of temperament and mother behaviors in each context indicated that mother’s reasoning/explanation and ignoring in the “do” context predicted later moral behavior in inhibited children, whereas redirection and commands in the “don’t” context predicted moral behavior in exuberant children.

Keywords

Temperament; parent-child relationships; moral development

The role of temperament in moral development has received increasing attention from researchers hoping to clarify the means through which children internalize moral values. Kochanska (1991, 1993; Kochanska & Aksan, 2006) laid the groundwork for this line of research, suggesting that temperament impacts moral development through its differential influence on emotional and behavioral control components of conscience. Conscience may be viewed as a multifaceted self-regulatory system encompassing moral emotion, behavior, and cognition (Kochanska & Aksan, 2006). The development of conscience, i.e., the development of self-regulatory processes that promote moral thought, emotion, and behavior, is a major contributor to children’s moral development. Emotionally, children may behave morally in order to avoid “affective discomfort,” i.e., guilt or anxiety in reference to perceived wrongdoing. Behavioral self-regulation allows children to inhibit certain responses and produce others to the service of rule-compliant behavior, reflecting a willingness to behave consistently with external expectations (Kochanska, 1993; Kochanska & Aksan, 2006, Kochanska, Coy, & Murray, 2001; Kochanska, Murray, & Coy, 1997; Kopp, 1982). Moral cognition reflects children’s understanding of moral rules and standards and the consequences of violating these rules (Kochanska & Aksan, 2006).

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The moral development literature also highlights the importance of parental discipline in the moral socialization process, particularly the use of gentle discipline techniques that favor warmth and responsiveness over power assertion (Grusec, 2006; Kochanska & Aksan, 2006; Kochanska & Thompson, 1997). Similarly, researchers emphasize the importance of a positive and “mutually responsive” parent-child relationship, which encourages the child’s positive regard for the parent and a sense of acceptance and reciprocity in the process of moral socialization (Dunn, 2006; Grusec, 2006; Kochanska, 1997b; Kochanska & Aksan, 1995; Kochanska & Aksan, 2006; Kochanska & Murray, 2000).

Temperamentally, children marked by low approach and/or greater avoidance of novelty are labeled by researchers as behaviorally inhibited (Fox, Henderson, Rubin, Calkins, & Schmidt, 2001; Kagan, Reznick, Clarke, Snidman, & Garcia-Coll, 1984). These children are conceived of as punishment-sensitive, with their behavioral inhibition reflecting avoidance of threatening stimuli (Rothbart & Bates, 2006). Consequently, the conscience development of children who are relatively more inhibited, anxious, or fearful may be motivated by affective discomfort (Kochanska, 1993, 1995, 1997a), as their punishment-sensitivity may prime them toward others’ expectations and the avoidance of incorrect behavior. Inhibited children are found to exhibit a non-impulsive behavioral style that gives them an advantage over other temperament types in terms of self-regulatory skills (Aksan & Kochanska, 2004) and indices of moral development like guilt, rule-compatible conduct, or internalization of moral standards (Cornell & Frick, 2007; Kochanska & Aksan, 2006). In order to effectively self-regulate, however, these children must still be well-informed of others’ demands and expectations (Thompson, Meyer, & McGinley, 2006). Further, given modest associations found between early temperamental inhibition and later anxiety symptoms (Biederman et al., 1990, 2001; Hirshfeld-Becker et al., 2007; Prior, Smart, Sanson, & Oberklaid, 2000; Rosenbaum et al., 1991), it is important that affective discomfort be elicited at a level that is manageable and non-distressing to the child (Kochanska, 1993). Because of this, parents’ use of gentle discipline is thought to promote greater conscience in fearful children (Kochanska, 1995, 1997a). Unlike negatively emotional or power-assertive techniques, gentle discipline techniques elicit cues of punishment without overwhelming the child, guiding behavior in line with parental expectations.

The conscience development of temperamentally inhibited children may be compared to that of children marked by high approach to environmental stimuli, typically identified as uninhibited, extraverted-surgent, or exuberant (Fox et al., 2001; Kagan et al., 1984; Polak-Toste & Gunnar, 2006; Putnam & Stifter, 2005; Rothbart & Bates, 2006). Exuberant children are relatively more sensitive to reward cues (Polak-Toste & Gunnar, 2006; Rothbart & Bates, 2006), and thus their perception of wrongdoing is thought to less easily elicit affective discomfort responses (Kochanska, 1993, 1995, 1997a). Moral development in exuberant children may be promoted through an alternate pathway, namely self-regulatory abilities. The appropriate or rule-compatible behavior of these children is necessarily a reflection of their ability to flexibly control their approach tendencies to meet situational demands and expectations (Polak-Toste & Gunnar, 2006). Importantly, a number of studies have found relations between child exuberance and oppositional or externalizing problems (Biederman et al., 2001; Degnan et al., 2011; Gartstein, Putnam, & Rothbart, 2012; Stifter, Putnam, & Jahromi, 2008), reflecting potential group-level reductions in adaptive self-regulation to

external expectations. Motivating exuberant children to self-regulate in appreciation for others' expectations and requests may be quite important for their moral development. Conscience development for exuberant children may thus be best promoted by a positive, responsive parent-child relationship (Kochanska, 1995, 1997a). If an exuberant child views the parent-child relationship as rewarding, the child will readily accept the parent's agenda and display behaviors that maintain positive interaction. Over time, acceptance of these messages will promote moral internalization.

Kochanska's (1991, 1995, 1997a; Kochanska, Aksan, & Joy, 2007) research examining the interaction of parenting behaviors with child fearfulness or anxiety-proneness has demonstrated support for these temperament-based patterns. This research generally finds that gentle discipline techniques have significant relations with compliance and conscience development only in relatively fearful children, and positive aspects of the parent-child relationship have significant relations with these outcomes only in relatively fearless children.

This line of research may, however, be extended in two ways. First, though previous research supports this differential pattern in terms of fearfulness, fearful and fearless children are not necessarily analogous to inhibited and exuberant children. A gestalt of behaviors is typically utilized in describing inhibited and uninhibited/exuberant temperament types (e.g., Degnan et al., 2011; Fox et al., 2001; Kagan et al., 1984; Putnam & Stifter, 2005), including but not limited to fear reactions, and a measure of fearfulness may not fully capture the range of motivational and affective reactions characteristic of different types. Examinations of differential effects of parenting behavior for children of different temperament profiles, rather than unidimensional measures of child temperament, are warranted.

Secondly, as mentioned, a sizeable literature suggests that gentle discipline, mutually responsive orientation, and/or general positivity in parent-child interactions may predict moral development across child temperament type (Grusec, 2006; Kochanska, 2002; Kochanska & Aksan, 2006; Thompson et al., 2006). It may be the case that in order to reveal specific temperament effects, positive parenting should actually be examined in less general terms. There is a growing push from parenting researchers to consider socialization not as a general mechanism of parenting style or influence, but instead as a more complex, bidirectional construct made of many different processes (Grusec & Davidov, 2010; Turiel, 2010). For example, specific parenting behaviors may be relatively more or less effective in promoting regulation and moral development in children of different temperament types. Parenting behaviors involving clear communication, explanation, limit-setting, and good modeling all appear to promote internalization of parenting messages (Smith, 2004), thus the present study examined several of these behaviors as potential moderators of the relation between child temperament and moral development.

An additional perspective from which to view these multifaceted effects may be that of context-specificity. The effect of a given parenting behavior may appear to be specific to child temperament type, but this effect may in turn be specific to the context in which it is displayed. Studies examining parenting influences on children's outcomes often examine parent-child interactions in only one context, or choose to collapse parenting behavior across

varying tasks. However, parenting goals and behaviors at a given time are thought to be influenced by both child factors and by situational factors (Dix, 1992), and outcomes of particular temperament measures may be specific to the context in which they are examined (Goldsmith, Aksan, Essex, Smider, & Vandell, 2001; Wachs & Kohnstamm, 2001).

Context-specific effects of parenting behavior for children varying in fearfulness or regulatory abilities have been investigated in a handful of studies predicting developmental outcomes including moral outcomes (Kiel & Buss, 2012; Kochanska et al., 2001; Rubin, Cheah, & Fox, 2001). One major contextual distinction highlighted in self-regulation research involves varying regulatory demands, specifically the distinction of “do” and “don’t” tasks (Kochanska et al., 2001). In “don’t” tasks, rule-compatible behavior involves stopping or suppressing a preferred but prohibited response. “Do” tasks require the child to produce and sustain an unpleasant but rule-compatible response. It is possible that this “do”/“don’t” distinction is particularly relevant in determining how similar parenting behavior may be beneficial for children’s moral development across differing temperament types.

Generally, “do” contexts are thought to pose a greater regulatory challenge for children (Kochanska et al., 2001). Because inhibited children are thought to have relative advantages in inhibiting inappropriate behavior (Aksan & Kochanska, 2004), gentle discipline in “don’t” contexts may have little importance for these children. Rather, inhibited children may benefit more from parental guidance in “do” contexts. Gentle direction toward correct behavior may provide the child with information about what behavior is acceptable to *produce* once a prepotent response is inhibited. This guidance toward acceptable behavioral responses may over time allow inhibited children to produce morally adaptive behavior.

Conversely, gentle discipline may be beneficial for exuberant children in the context of “don’t” tasks. Given that these children have greater difficulty inhibiting approach behaviors (compared to inhibited children), gentle intervention by the mother may redirect the child back to her and appeal to the child’s positive regard for her expectations. This may in turn remind the child of the expectations of the task at hand and particularly the need to inhibit this approach behavior. Providing exuberant children with strategies for inhibiting inappropriate responses may allow these children to quell the motivation toward disruptive, immoral behavior.

In a detailed examination of performance in “do” and “don’t” contexts, Kochanska et al. (2001) examined both temperament and parenting influences on children’s compliance and behavioral internalization. Greater child fearfulness, shyness, and self-regulation (effortful control) related more consistently to internalized compliance in “don’t” contexts than “do” contexts, arguably reflecting the lesser demands of the “don’t” task context and the regulatory skills of fearful children, but negative parenting behavior did not have significant effects on behavior in either context. No positive parenting behaviors were examined in this study. Further, behavioral internalization was defined as rule-compatible behavior immediately following each “do” and “don’t” task, rather than in an alternate task. A thorough examination of the proposed pattern of effects would involve differing patterns of

prediction to later moral behavior based on the interaction of temperament, gentle discipline, and context.

The current study examined moral development outcomes in children of inhibited, exuberant, and low-reactive temperament types, moderated by varying maternal gentle discipline behaviors in a “do” and “don’t” task context. It was hypothesized that the effect of gentle discipline behaviors would vary with temperament group and task context, such that gentle discipline would be influential for inhibited children in a “do” context, and influential for exuberant children in a “don’t” context. Children’s moral behavior was measured three years later. It was predicted that in the “do” context, mothers’ use of gentle discipline would be a significant predictor of later moral behavior for inhibited children, but not for children of other temperament types. Conversely, it was predicted that in the “don’t” context, mothers’ use of gentle discipline would be a significant predictor of later moral behavior for exuberant children, but not for children of other temperament types.

Method

Participants

Participants for this study were children and their mothers recruited for a large-scale longitudinal study of emotional development in children. Children in the original sample were equally distributed by gender (52% female) and primarily Caucasian (91.8%, 3.4% African-American, 3.4% Asian, 1.4% of other ethnicity). Mothers averaged 29.68 years of age at the time of the child’s birth ($SD = 5.50$ years) with an average of 15.59 years of education ($SD = 2.70$ years). The majority of mothers (84%) were married. These participants were initially recruited to a larger study which followed infants from 2 weeks of age to 2 years of age; the current study utilized observations of children and mothers when the child was 24 and 25 months old. All participants were re-contacted and asked to participate in a follow-up study with assessments at 4.5 years, 5.5-years, and once prior to first grade entry. Data from the 5.5 year assessment was used in the present study. Of the 126 mother-child dyads who completed the 2-year assessment, 65 subsequently completed the 5.5-year assessment. Reasons for non-participation in the follow-up study were primarily due to moving out of the area or refusal to participate due to other obligations. In examining the data for potential attrition bias, no significant differences in demographic variables or two-year variables of interest were found among participants who completed both assessments and those who completed the 2-year assessment but did not participate in the 5.5-year assessment.

Procedure and Behavioral Coding

Parents and children took part in laboratory visits when the child was 24 months and 25 months of age as well as two follow-up visits when the child was approximately 5.5 years of age. Each visit was video-recorded for coding purposes. Child responses to a number of tasks across the 24/25-month visits were coded for the purpose of forming temperament groups. Mothers and children took part in a competing demands task during the 24-month visit, yielding a measure of maternal gentle discipline behaviors in “do” and “don’t” contexts. At 5.5 years of age the child took part in three tasks designed to elicit moral or

immoral behavior (a crayon sorting task, a memory card game, and a puzzle task), and performance in these tasks was utilized as a measure of child conscience development.

Two-year assessment

Temperament group—Children took part in a number of procedures designed to elicit temperament-relevant behavioral responses, such as approach/withdrawal and positive/negative affect. These tasks and the coding schemes underlying temperament group formation are detailed in Putman and Stifter (2005).

These measures from the two-year visits were subjected to a confirmatory factor analysis supporting a 3-factor model consisting of positive affect, negative affect, and approach/inhibition. A two-step cluster analysis was used to create groups from these factors; first the appropriate number of groups was determined from the dendograms from a hierarchical cluster analysis (Ward's method) and then *K*-means solutions were used to classify children into groups. This process identified a four-cluster solution: 1. a group extremely high in negative affect/low in approach, labeled the extremely inhibited group; 2. a second group high in negative affect/low in approach, labeled the inhibited group; 3. a group high in positive affect/high in approach, labeled the exuberant group; 4. a group low on positive and negative affect/moderate on approach/inhibition, labeled the low-reactive group. Due to a low frequency of participants in the extremely inhibited group ($N = 3$), this group was collapsed with the inhibited group to form a single inhibited group. Among the children who participated in the 5.5-year laboratory visit, 14 were in the inhibited temperament group, 29 were in the exuberant temperament group, and 22 were in the low-reactive temperament group.

Competing demands task—During this task, the mother was asked to complete a questionnaire while avoiding interacting with the child. Mothers were, however, allowed to respond if the child initiated interaction, and were asked to prevent the child from playing with a basket of toys that would be brought into the room. Ultimately, mothers chose to interact with the child throughout the task. The child was asked to play with a number of toys intended to be uninteresting (wooden block, cloth toy, rattle, plastic fish, and plastic bowling pin). The experimenter left the room for two minutes (boring episode, reflecting “do” context), then re-entered with the basket of interesting toys. The experimenter placed the basket in view but out of reach of the child, and told the child that these toys were for later, but that the child may continue to play with the uninteresting toys. The experimenter then left the room for an additional two minutes (prohibition episode, reflecting “don’t” context).

Trained research assistants coded this task for the presence of a number of parenting behaviors in 5-second intervals (Cipriano & Stifter, 2010). This study utilized behaviors reflecting gentle discipline or gentle interactions with the child: redirection (gentle guidance, suggestions, or statements that redirect the child’s attention to the provided toys), reasoning/explanation (providing an explanation of why the child can or cannot engage in a present behavior), command (statements or instructions to the child to engage in a behavior), and ignore (lack of verbal or behavioral response while the child is attempting to get the

mother's attention). All coded behaviors were delivered by mothers in a positive or neutral tone. Coding reliability was assessed on 22% of the sample, with an average kappa across episodes of .77 redirection, .92 reasoning/explanation, .89 command, and .76 ignore. Proportion scores for each maternal behavior in the competing demands task (the number of intervals the mother displayed this behavior in the episode divided by the total number of intervals the episode) were created for each episode.

As children's interaction with the mother (both episodes) and approach to the interesting toys (prohibition episode) may lead to varying elicitation of discipline, all analyses controlled for the following child behaviors which were coded in 5-second intervals using 3-point scales. Children's focus on the mother was coded from 0 (not attending to or touching the mother) to 2 (actively attempting to engage the mother). Children's focus on the off-limits toys was coded from 0 (no focus on the off-limits toys) to 3 (actively trying to obtain the off-limits toys). Coding reliability for these behaviors was assessed on 8% of the 24-month sample, with an average kappa across episodes of .76 for focus on the mother and 1.00 for focus on the off-limits toys. Scores for each behavior were calculated as the mean of coded levels across the individual episode.

5.5-year assessment

Moral measures—Two tasks were used to elicit cheating behavior in children and one to assess prosocial behavior. Moral behavior in the cheating tasks was defined as the ability to inhibit rule-breaking behavior despite the temptation to cheat. Moral behavior in the prosocial task was defined as the amount of time engaging in the suggested prosocial behavior. In a *card cheating task*, the experimenter introduced a memory game in which cards were placed face-down on the table and two at a time were flipped over in hopes of finding a match. The experimenter told the child that each time s/he found a match s/he would receive a ticket to later exchange for prizes. The pair took turns playing, and after the child had found two matches, the experimenter left the room, instructing the child not to turn over cards "because that would be cheating." The experimenter returned after two minutes. Trained research assistants coded the child's latency (in seconds) to peek under a card. Coding reliability was assessed on 22% of the sample, with an average kappa of .97.

In a *puzzle cheating task* (Eisenberg et al., 2000), the child was presented with a box with a black panel facing the child and transparent plexiglass in the back. The experimenter placed a simple shape puzzle behind the black panel and told the child she wanted to see how fast the child could finish the puzzle without looking behind the black panel. If the puzzle was finished before five minutes, the child would receive additional prize tickets. The experimenter then left the room and returned after five minutes had passed or earlier if the child completed the puzzle. Similar to the memory card task, trained research assistants coded the child's latency (in seconds) to peek under the black panel. Coding reliability was assessed on 18% of the sample, with an average kappa of .89.

In the *crayon sorting task*, designed to elicit prosocial behavior (Cialdini, Eisenberg, Shell, & McCreath, 1987), the experimenter presented the child with a box of crayons and explained that the crayons needed to be sorted for children in a hospital. The experimenter explained how to sort the crayons by color, and then brought a basket of toys into the room.

The experimenter told the child s/he could either sort the crayons or play with the toys, thanked the child, and left the room for five minutes. The total amount of time the child spent sorting crayons (i.e. picking up crayons and placing them in the correct slot) was coded. Coding reliability was assessed on 18% of the sample, with an average kappa of .94.

In order to create an overall outcome measure of children's moral development (following Kochanska, 1997a) moral behavior tasks were examined for aggregation. Cheating latency proportion scores were calculated for the card and puzzle tasks, reflecting the proportion of the total task time that passed before the child's first peek. Crayon sorting proportion scores were also calculated, reflecting the proportion of the task time the child spent sorting crayons. Modest positive correlations existed among the standardized task scores (card and puzzle $r = .18$, $p = .15$; card and crayon $r = .36$, $p = .004$; puzzle and crayon $r = .22$, $p = .08$), suggesting these scores reflect related, non-redundant indicators of moral behavior (see Bollen & Lennox, 1991). Thus, a composite moral behavior variable was created by averaging the three standardized task scores.

Receptive vocabulary—As children's receptive vocabulary could be related to their understanding of verbal task instructions (Stifter, Cipriano, Conway, & Kelleher, 2008), the Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 1981) was administered at 4.5 years of age. Age-adjusted standardized scores were created for use as a control in all analyses.

Results

Means and standard deviations for variables used in the analyses appear in Table 1. No significant gender or temperament group differences were found among maternal gentle discipline behaviors or in the moral behavior outcome variable. As expected, receptive vocabulary (PPVT score) was significantly correlated with the outcome ($r = .34$, $p = .01$) and thus used as a control variable in all analyses. Children's focus on mother in both episodes (correlations ranged from $p < .001$ to $p = .05$) and focus on the off-limits toys in the prohibition episode (redirection and ignore correlations $p = .06$) correlated with the maternal gentle discipline variables, and were used as additional control variables in their respective task analyses.

Multiple regression analyses were built to test the hypothesis that the effect of maternal gentle discipline in predicting child moral behavior differs by child temperament group and discipline context. Given sample size limitations, separate models were run for each coded maternal gentle discipline behavior (redirection, reasoning/explanation, command, ignore, or social exchange) in each competing demands context (boring episode and prohibition episode) for a total of eight models. Temperament group was dummy-coded into two variables with the exuberant group as the reference group. Temperament-by-discipline interaction terms were created by centering each maternal gentle discipline behavior variable and multiplying it by each temperament dummy-coded variable. Drawing from previous findings of moral behavior in this sample using a similar statistical approach (Stifter, Cipriano, et al., 2008), we anticipated effect sizes (Cohen's f^2) of approximately .3–.5 for

each model. We thus assumed adequate statistical power to test these models with the present sample size (Cohen, Cohen, West, & Aiken, 2003).

In each model the child moral behavior composite score was regressed on the control variables (PPVT score, focus on mother during episode, and focus on off-limits toys (in prohibition episode models only)), maternal gentle discipline behavior variable, inhibited dummy variable, low-reactive dummy variable, an inhibited-by-gentle discipline behavior interaction term, and low-reactive-by-gentle discipline behavior interaction term. All predictors were entered simultaneously. Given that the exuberant group is the reference group in this analysis, the effect of maternal gentle discipline behavior in the model is the simple effect of this given behavior for the exuberant group (that is, the test of the simple slope for the exuberant group). Models with any significant interaction term(s) were probed by re-running the model with new temperament group dummy codes to test the effect of the maternal gentle discipline for the inhibited group as reference and low-reactive group as reference for group comparison.

Boring Episode

Table 2 reports the models predicting child moral behavior from temperament group and each maternal gentle discipline behavior in the boring episode. All four models had significant omnibus *F*-tests. In each model PPVT score made a significant contribution to the model; higher PPVT scores predicted higher (better) moral behavior scores. The models with maternal redirection and maternal command as predictors had no significant additional predictors. The models with maternal reasoning/explanation and ignoring in the boring episode as predictors each had significant additional predictors as well as interaction terms and thus were examined further.

Maternal reasoning/explanation—In the model predicting child moral behavior from temperament and maternal reasoning/explanation in the boring episode, two significant interaction terms emerged. These interactions were probed further by testing the simple slope of maternal reasoning/explanation through models utilizing alternate temperament group dummy-codes. The effect of maternal reasoning/explanation was not significant for the exuberant ($\beta = -.31, p = .17$) or low-reactive ($\beta = .27, p = .19$) temperament groups, but was significant for the inhibited group ($\beta = .48, p = .05$). A greater proportion of maternal reasoning/explanation in the boring episode predicted higher moral behavior scores for the inhibited group only. See Figure 1 for a plot of the lines for each temperament group in this model.

Maternal ignoring—A somewhat similar pattern was found in the model predicting child moral behavior from temperament and maternal ignore in the boring episode, with the inhibited group and maternal ignore interaction term making a significant contribution to the model. Running this model with alternate dummy codes revealed that the effect of maternal ignore was not significant for the exuberant ($\beta = .04, p = .80$) or low-reactive ($\beta = -.01, p = .96$) temperament groups, but was significant for the inhibited group ($\beta = .94, p = .01$). Inhibited children whose mothers ignored them during the boring episode exhibited higher

moral behavior scores than inhibited children whose mothers ignored them less. See Figure 2 for a plot of the lines for each temperament group in this model.

Prohibition Episode

Table 3 reports the models predicting child moral behavior from temperament group and each maternal gentle discipline behavior in the prohibition episode. The results revealed that the models with maternal redirection and maternal command as predictors had significant omnibus *F*-tests, as well as significant additional predictors and interactions. The models predicting from maternal redirection and maternal command in the prohibition episode each had a nonsignificant omnibus test. Thus, only the models with maternal redirection and maternal command as predictors were examined further.

Maternal redirection—In the model predicting child moral behavior from temperament and maternal redirection in the prohibition episode, the low-reactive group and maternal redirection interaction term made a significant contribution to the model. Simple slopes models revealed that the effect of maternal redirection was significant for the exuberant temperament group ($\beta = .58, p = .003$), but was not significant for the low-reactive ($\beta = -.37, p = .11$) or inhibited ($\beta = .07, p = .29$) group. Exuberant children whose mothers used greater maternal redirection in the prohibition episode had higher moral behavior scores than exuberant children whose mothers used less redirection. See Figure 3 for a plot of the lines for each group in this model.

Maternal command—In the model predicting child moral behavior from temperament and maternal commands in the prohibition episode, both interaction terms were marginally significant (both $p = .09$). Given evidence of consistently low effect sizes for interactions with categorical variables in multiple regression (Aguinis, Beaty, Boik, & Pierce, 2005), we chose to examine simple slopes for temperament groups. Simple slopes models revealed that the effect of maternal commands was significant for the exuberant temperament group ($\beta = .44, p = .04$), but was not significant for the low-reactive ($\beta = -.07, p = .74$) or inhibited ($\beta = -.12, p = .70$) group. When mothers of exuberant children used more commands in the prohibition episode their children displayed better moral behavior 3 years later. See Figure 4 for a plot of the lines for each temperament group in this model.

Discussion

Research examining moral development in light of child temperament suggests that parenting behaviors may have different effects when used with children of different temperament types. Research examining gentle discipline has, however, neglected to separate and distinguish varying kinds of behaviors that may be represented by this term, and the ways in which both inhibited and exuberant children may benefit from the use of these differing behaviors. The context in which parenting occurs may also be an important predictor of its effect as a moderator of the relation between child temperament and moral development, as parent-child interactions take place in a wide range of situations with varying expectations. This study sought to examine each of these issues, and the results

demonstrated specificity of both parenting behavior and parenting context in predicting later moral behavior in children of inhibited and exuberant temperament types.

As expected, our findings showed that the types of maternal gentle discipline that were effective for children in the inhibited group differed from those that were effective for children in the exuberant group as did the contexts within which they occurred. Maternal reasoning/explanation and maternal ignoring were both significant predictors of later moral behavior only for the inhibited group in the “do” context (boring episode). Some research has demonstrated that encouraging increased responsiveness, reasoning, or explanation in parents during joint tasks is related to increased child compliance within-task or in a following task (Kuczynski, 1984, Parpal & Maccoby, 1985). The findings of this study suggest some temperamental variation in this effect. Inhibited children may be especially primed to accept situational expectations, so parents’ tendency to voice these expectations may be more strongly predictive of rule-compatible and morally-consistent behavior in children of this temperament type compared to others.

The significant effect of maternal ignoring in the “do” context for inhibited children is an interesting contrast, but also supported by previous research. Parpal and Maccoby (1985) used a task similar to the boring episode in this study, and found that inducing ignoring behavior in mothers also predicted child compliance in a later task. The findings of the present study might reflect an increased readiness for the inhibited child to interpret this lack of attention as an unspoken expectation that the child regulate his/her own behavior in line with task instructions. This type of compliance may increase inhibited children’s self-reliance in managing behavior, a skill which, in line with our findings, may promote later moral behavior in the absence of an authority figure.

Interestingly, both of these effects for inhibited children were only found during the “do” context. As evidenced by the types of behaviors that worked well for inhibited children, it seems that in the “do” context, in which the expectations involved sustaining uninteresting behaviors (playing with boring toys) rather than inhibiting any particular behavior, inhibited children benefitted from gentle guidance from the caregiver that explained or implied these expectations. This extra instruction may have been less influential for inhibited children in the “don’t” task, given their skill at inhibiting behavior (Kochanska et al., 2001). If inhibited children are prepared to easily absorb these expectations, then explicit or implicit messages from the parent about behavioral expectations may motivate the child to attend to similar messages in future situations, motivating greater moral behavior.

Conversely, maternal redirection and commands were influential only for the exuberant group and only in the “don’t” context (prohibition episode). Unlike inhibited children, exuberant children may require more guidance from parents toward inhibiting prepotent responses. Redirection may be effective in stopping momentary child behavior by orienting to other stimuli in the environment or engaging in alternate behaviors, a requirement for avoiding the temptation of the off-limits toys. In fact, mothers’ use of distraction as a co-regulation strategy with their children in a delay task has been shown to be an effective tool in promoting within-task delay behaviors in the child (Putnam, Spritz, & Stifter, 2002). Parent-directed redirection and distraction may form the foundation for self-directed

distraction in children, which has long been found to aid in children's self-regulatory behavior (e.g., Mischel, Ebbeson, & Zeiss, 1972). This skill may be particularly helpful for exuberant children, whose approach orientation is motivated by novelty (e.g., new toys) which may induce the impulse to seek reward over rule-compatible behavior. These findings suggest that mothers' use of redirection at early ages may help exuberant children to form the skills necessary to (re-)orient away from task stimuli to reduce this impulse to cheat, and also perhaps to orient toward task stimuli (and away from more desirable stimuli) in order to promote prosocial behavior.

Though the results should be interpreted with caution, mothers' use of commands appear successful in predicting later moral behavior for the exuberant group. It is important to note that in this study, a command was coded when the mother instructed the child to engage in a behavior, and not when the mother was instructing the child to stop a behavior. Thus, this technique may actually serve a similar function as redirection, in that it provides specific instruction to the child to reorient behavior to other stimuli or other objects in the environment. Research has found that mothers' use of commands in this form predicts later effortful control in children (Cipriano & Stifter, 2010) particularly when delivered in a warm tone; these skills may in turn promote the ability to deliberately inhibit cheating behavior or to produce prosocial behavior in later years.

Further, and consistent with hypotheses, the effects of gentle discipline for exuberant children were only present in the "don't" context. A task requiring inhibition of undesired behavior (avoiding off-limits toys) may be more strongly tied to the challenge exuberant children have with controlling approach to rewarding (e.g., novel) stimuli in order to meet task demands (Polek-Toste & Gunnar, 2006). Given that good behavioral control may be especially salient in the moral development of exuberant children (Kochanska, 1993; 1995; 1997a), it appears that strategies that target the exuberant child's behavioral focus in a "don't" task are most effective in promoting later moral behavior. Providing exuberant children with specific behavioral control skills in contexts where approach impulses must be restrained seems particularly helpful for later inhibition of cheating or self-focused impulses in order to meet the expectations of future tasks.

In sum, this differential pattern of effects of maternal parenting is consistent with previous lines of research suggesting that positive, warm parenting is effective for promoting compliance and conscience development in children (e.g., Kochanska & Aksan, 2006). However, these findings also strike a balance with research suggesting that gentle discipline is particularly effective for relatively fearful children (Kochanska, 1991, 1995, 1997a). By examining the construct of gentle discipline as represented by multiple maternal behaviors, we find that some types of gentle discipline are in fact more effective for inhibited children, and other types of gentle discipline may be particularly successful in promoting moral development in exuberant children. Similarly, these findings suggest that although gentle parental discipline has benefits for promoting later morally-consistent behavior in children, the contexts in which it is used may have differing implications for inhibited and exuberant children.

Limitations and Future Directions

A number of limitations in the current study should be considered. Participants were largely Caucasian and mothers were relatively well-educated. Examining these hypotheses in a more ethnically and economically diverse sample may provide a more robust view of these findings. In terms of design, the data were drawn from an extended longitudinal study, and loss of participants in the follow-up study resulted in a relatively small sample size in each temperament group. This limited the statistical power to explore 3-way interactions of temperament, context, and parenting behavior. Similarly, because mother's gentle discipline was measured in a task that pulled for ignoring the child, mothers' other gentle discipline behaviors were somewhat limited. Examining these relations in tasks allowing for greater verbal and physical interaction between the parent and child, such as clean-up tasks ("do" context) or delay tasks ("don't" context) may provide more statistical power to the analyses and more confidence in the findings. Lastly, although the longitudinal design provides some strength to the relations among the variables across time, causal influence may not be assumed from the correlational analyses.

Future research may continue to examine specific parenting behaviors and parenting contexts that serve to promote moral development in children of differing temperament types. For example, positive interactions with the mother may be more influential for conscience development in exuberant rather than inhibited children (e.g., Kochanska, 1995, 1997a), but they may also mitigate anxiety or distress in inhibited children, or serve as models of cooperative or prosocial behaviors in children of both temperament types. Comparisons of parenting behavior in contexts that elicit more positive affect (e.g., goal-oriented play tasks) to that in contexts that elicit more negative affect (e.g., frustration tasks) may additionally pull for temperamental differences in approach/withdrawal and affect that parenting may moderate.

Also of note is the strong relation between receptive vocabulary and the outcome measure. Researchers have proposed that intelligence may play a role in cheating behavior (Koenig, Cicchetti, & Rogosch, 2004), likely due to comprehension and application of moral rules and expectations. Researchers should continue to acknowledge the importance of language skills when assessing conscience development.

Taken together, the findings of this study suggest that moral development is dependent upon the child temperament and the contexts in which parenting of children of different temperaments occurs. Greater understanding of how contextual elements determine the effect of specific parenting behaviors for children of particular temperament types may provide a better view of how parenting may best promote moral development and self-regulation in children.

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Figure 1.
Effect of maternal reasoning in boring episode by temperament group.

Figure 2.
Effect of maternal ignoring in boring episode by temperament group.

Figure 3.
Effect of maternal redirection in prohibition episode by temperament group.

Figure 4.
Effect of maternal commands in prohibition episode by temperament group.

Table 1

Means and Standard Deviations for Control Variables and Main Study Variables

	<i>M</i>	<i>SD</i>	<i>Range</i>
Control Variables			
PPVT	110.61	12.99	70.0–139.0
Focus on Mother, Boring Episode	.88	.51	0–2.0
Focus on Mother, Prohibition Episode	1.00	.56	0–2.0
Focus on Off-Limits Toys, Prohibition Episode	.22	.41	0–1.75
Maternal Gentle Discipline (24 months) Boring Episode			
Redirection	.03	.06	0–.46
Reasoning/explanation	.05	.06	0–.23
Command	.04	.08	0–.35
Ignore	.18	.18	0–.70
Prohibition Episode			
Redirection	.03	.07	0–.32
Reasoning/explanation	.05	.07	0–.28
Command	.04	.05	0–.20
Ignore	.32	.24	0–.97
Child Moral Behaviors (5.5 years)			
Latency to cheat, card task	.74	.38	0–1.00
Latency to cheat, puzzle task	.48	.44	0–1.00
Prosocial behavior, crayon sort	.56	.45	0–1.00
Child Moral Behavior Composite	–.02	.73	–1.47–1.17

Table 2

Multiple Regression Models Predicting Child Moral Behavior from Child Temperament Group and Maternal Gentle Discipline in the Boring Episode

Variables	β	F	R^2
Redirection			
PPVT	.32 *	2.49 *	.26
Focus on Mother	-.22		
Inhibited	.14		
Low-Reactive	.17		
Redirection	-.12		
InhibitedXRedirection	.19		
Low-ReactiveXRedirection	.35		
Reasoning/Explanation			
PPVT	.34 **	3.06 **	.30
Focus on Mother	-.25 ⁺		
Inhibited	.12		
Low-Reactive	-.09		
Reasoning	-.31		
InhibitedXReasoning	.43 *		
Low-ReactiveXReasoning	.34 *		
Command			
PPVT	.29 *	2.53 *	.26
Focus on Mother	-.10		
Inhibited	.15		
Low-Reactive	-.11		
Command	-.25		
InhibitedXCommand	.25		
Low-ReactiveXCommand	-.09		
Ignore			
PPVT	.26 *	3.00 *	.29
Focus on Mother	-.27 *		
Inhibited	.38 *		
Low-Reactive	-.10		
Ignore	.04		
InhibitedXIgnore	.37 *		
Low-ReactiveXIgnore	-.03		

⁺ $p < .10$;

* $p < .05$;

** $p < .01$

Table 3

Multiple Regression Models Predicting Child Moral Behavior from Child Temperament Group and Maternal Gentle Discipline in the Prohibition Episode

Variables	β	F	R^2
Redirection			
PPVT	.41 **	3.28 **	.34
Focus on Mother	-.10		
Focus on Off-Limits Toys	-.30 *		
Inhibited	.12		
Low-Reactive	-.04		
Redirection	.58 **		
InhibitedXRedirection	-.25		
Low-ReactiveXRedirection	-.50 **		
Reasoning/Explanation			
PPVT	.30 *	1.40	.18
Focus on Mother	-.06		
Focus on Off-Limits Toys	-.14		
Inhibited	.16		
Low-Reactive	-.06		
Reasoning	-.04		
InhibitedXReasoning	-.03		
Low-ReactiveXReasoning	.001		
Command			
PPVT	.38 *	2.19 *	.25
Focus on Mother	-.18		
Focus on Off-Limits Toys	-.09		
Inhibited	.19		
Low-Reactive	-.02		
Command	.44 *		
InhibitedXCommand	-.26 ⁺		
Low-ReactiveXCommand	-.31 ⁺		
Ignore			
PPVT	.27 *	1.65	.20
Focus on Mother	-.07		
Focus on Off-Limits Toys	-.06		
Inhibited	.17		
Low-Reactive	-.05		
Ignore	-.22		
InhibitedXIgnore	.22		
Low-ReactiveXIgnore	.04		

⁺
 $p < .10$;

^{*}
 $p < .05$;

^{**}
 $p < .01$

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